

# Service Manual



**Colour Television**

**TX-28CK1**

**TX-25CK1**

**Z8 Chassis**

## SPECIFICATION

(Information in brackets { } refers to model TX-25CK1)

<b>Power Source:</b>	220-240V a.c., 50Hz		
<b>Power Consumption:</b>	76W {76W}	<b>RCA IN</b>	Video 1V p-p 75Ω
<b>Stand-by Power Consumption:</b>	0,9W {0,9W}	<b>RCA IN</b>	Audio 500mV rms 10kΩ
<b>Aerial Impedance:</b>	75Ω unbalanced, Coaxial Type	<b>High Voltage:</b>	28kV ± 1kV {28kV ± 1kV}
<b>Receiving System:</b>	PAL I, PAL-525/60 M. NTSC NTSC (AV only)	<b>Picture Tube:</b>	A66ECF50X04 66cm {A59EEQ15X97 59cm}
<b>Receiving Channels:</b>	UHF E21-E68	<b>Audio Output:</b>	2 x 10W (M.P.O.) 2 x 5W (R.M.S.) 8Ω Impedance
<b>Intermediate Frequency:</b>		<b>Headphones:</b>	8Ω Impedance 3,5mm
<b>Video/Audio</b>	Video 38,9MHz Audio 32,9MHz 32,35MHz (NICAM)	<b>Accessories supplied :</b>	Remote Control 2 x R6 (UM3) Batteries T.V. Stand TS2800
<b>Colour</b>	34,47MHz	<b>Dimensions:</b>	
<b>Terminals:</b>		Height:	580mm {538mm}
<b>AV1 IN</b>	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 10kΩ RGB (21 pin) 0,7V p-p 75Ω	Width:	646mm {580mm}
<b>AV1 OUT</b>	Video (21 pin) 1V p-p 75Ω Audio (21 pin) 500mV rms 1kΩ	Depth:	471mm {442,5mm}
		<b>Net weight:</b>	33kg {27kg}
		Specifications are subject to change without notice. Weights and dimensions shown are approximate.	
		<b>NOTE:</b> This Service Manual should be used in conjunction with the Z8 Technical guide.	

**Panasonic**

**Panasonic CS ( U.K. ) Ltd.**  
WILLOUGHBY ROAD,  
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## SAFETY PRECAUTIONS

### GENERAL GUIDE LINES

1. It is advisable to insert an isolation transformer in the a.c. supply before servicing a hot chassis.
2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts that have been overheated or damaged by the short circuit.
3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.
4. When the receiver is not being used for a long period of time, unplug the power cord from the a.c. outlet.
5. Potentials as high as 29kV {29kV} are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.
5. Reverse the a.c. plug at the outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1,4Vrms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

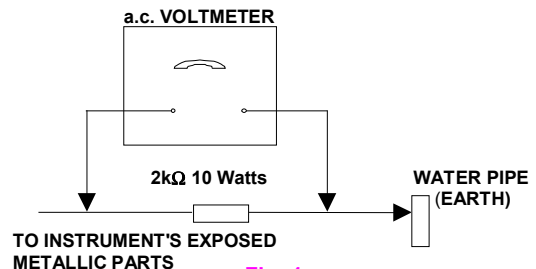
### LEAKAGE CURRENT COLD CHECK

1. Unplug the a.c. cord and connect a jumper between the two prongs of the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value with an ohmmeter, between the jumpered a.c. plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

### LEAKAGE CURRENT HOT CHECK

1. Plug the a.c. cord directly into the a.c. outlet. Do not use an isolation transformer for this check.
2. Connect a 2k $\Omega$  10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an a.c. voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at each point.

### HOT CHECK CIRCUIT



### X-RADIATION WARNING

1. The potential sources of X-Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that the jig is capable of handling 29kV {29kV} without causing X-Radiation.

**NOTE:** It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate. TX-28CK1, TX-25CK1      28kV  $\pm$  1kV.

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

3. To prevent any X-Radiation possibility, it is essential to use the specified tube.

## SERVICE HINTS

### How to remove the rear cover

1. Remove the 5 screws as shown in

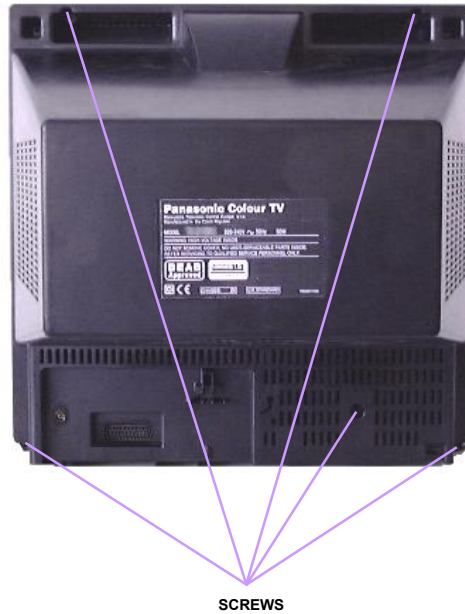


Fig.2.

## LOCATION OF CONTROLS

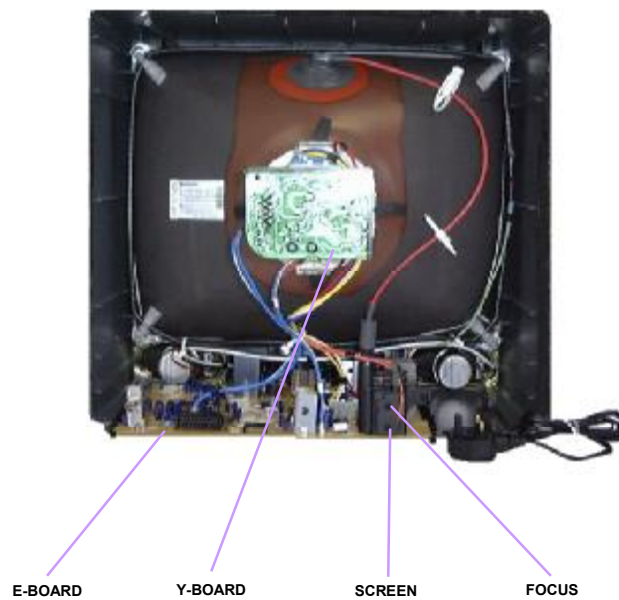



Fig.3.

## ADJUSTMENT PROCEDURE

Item / Preparation	Adjustments
<b>+B SET-UP</b> 1. Receive a Greyscale signal. 2. Set the controls :-  <div style="display: flex; justify-content: space-between;"> <div>Brightness</div> <div>Minimum</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Contrast</div> <div>Minimum</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Volume</div> <div>Minimum</div> </div>	1. Confirm the following voltages.  <div style="display: flex; justify-content: space-between;"> <div> <b>TPE1</b> 3,3 ± 0,3V  <b>TPE2</b> 195 ± 10V  <b>TPE3</b> 13,5 ± 1V  <b>TPE4</b> 10 ± 1V  <b>TPE8</b> 5 ± 0,3V  <b>TPE11</b> 147 ± 10V             </div> <div> <b>TPE13</b> -13 ± 1V  <b>TPE14</b> 27,5 ± 1,5V  <b>TPE15</b> 28 ± 1,5V  <b>TPE16</b> 11,5 ± 1V  <b>TPE17</b> 8 ± 1V  <b>TPE18</b> 5 ± 0,3V             </div> </div>
<b>CUT OFF / Ug2 Adjustment</b> 1. Receive a Greyscale signal. 2. Degauss the tube externally. 3. Set the TV into Service Mode 1. 4. Select Ug2 Test.	Set Contrast on maximum, set Brightness on center, switch on AV mode. Enter Service mode. Set Sub-Brightness to 31. Select Ug2 Test. Press "+" and adjust screen Vr till sharp vertical line is visible and LED switches off. Then reduce screen Vr till LED is just switched on (pin6 of connector E1 must be connected to GND).

Note: To set up "white balance" first set up "Cut off" register to 8. Then set up "high-light" with the help of "drive" registers. Finish setting-up of "Low-light" with the help of "Cut-off" register. Carry out setting-up of "white balance" in available TV systems (PAL, SECAM).

## FACTORY SETTINGS

To return customer settings to factory settings and clear owner ID of all information input by the customer, enter Self-Check mode. Press the down (-/v) button on the customer controls at the front of the TV set, at the same time pressing the **STATUS** button  on the remote control. To exit Self Check, switch off the TV set at the power button.

**NOTE:** Self Check should only be used when refurbishing the TV set and not during normal repair work.

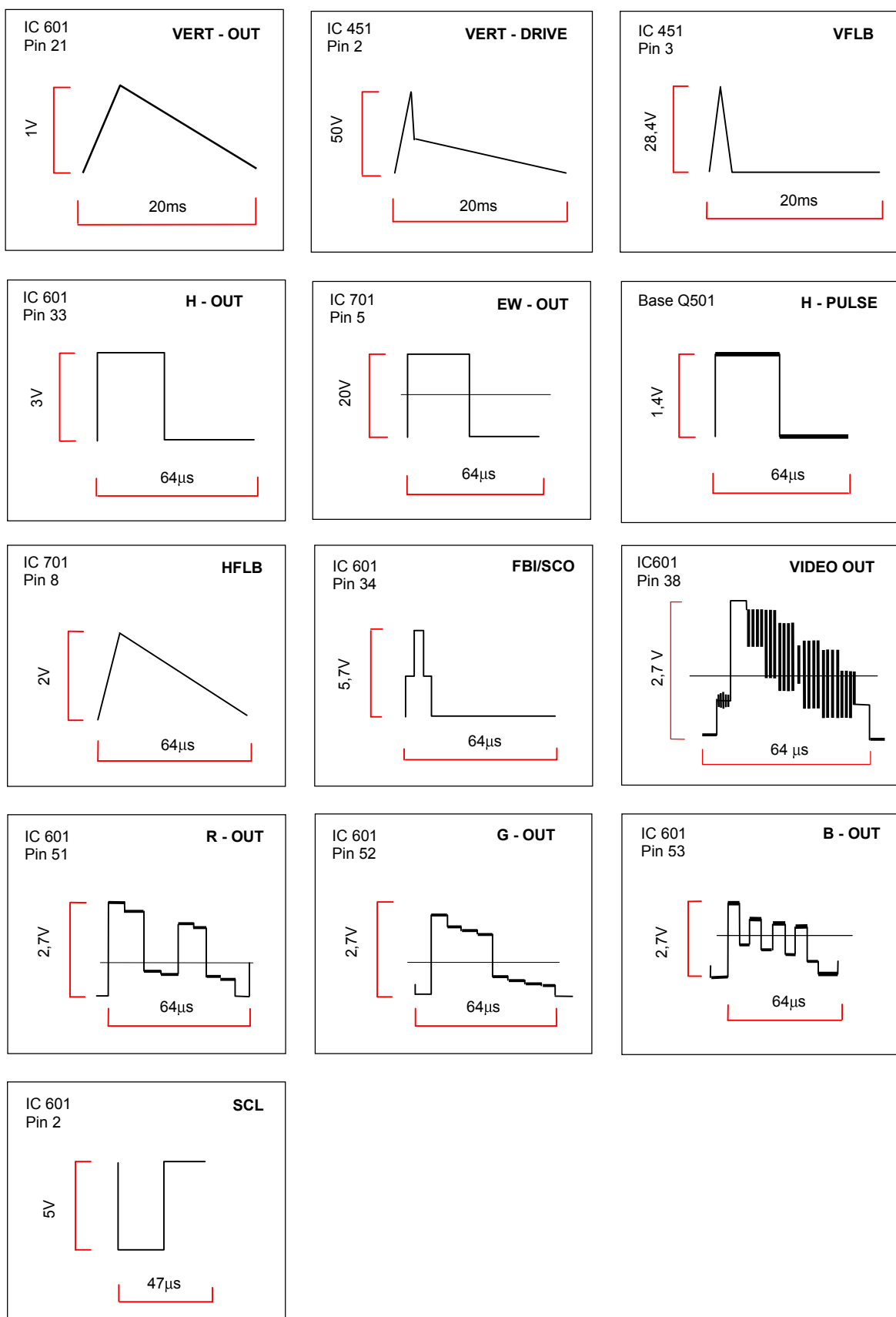
OPTION 1	24	{OPTION 1	24}
OPTION 2	00	{OPTION 2	00}

### Service Aids

To aid in the service of our current chassis there are a number of Service Aids which have been made available.

- **LUCI** interface kit (Linked **U**tility **C**omputer Interface)  
 Part number: TZS6EZ002  
 This contains interface and cables for connecting TV service connector and a PC as well as diagnostic software. As new models are introduced upgrade software will become available.
- **VICI** (Visual Interactive **C**omputer Information)  
 These C.D.'s contain multimedia documentation providing quick access to service information.  
 Part No. TZS7EZ006, TZS7EZ005, TZS8EZ001 & TZS9EZ001
  1. Service Manuals
  2. Instruction Books
  3. Technical Information
- **TASMIN** (Technically **A**dvanced **S**ystem for **M**ultimedia Interactive **N**otes)  
 As well as providing a first step towards more interactive training this product also achieves quick access to Technical Information.

## WAVEFORM PATTERN TABLE



## ALIGNMENT SETTINGS

To access Service Mode select program position 99 and set sharpness to minimum.

Press "**MUTE**" button on remote control and at the same time press the "**V**" button on the customer controls at the front of the TV, this will place the TV set into Service Mode.

Press **▲** / **▼** buttons to step up / down through the functions.

Press **+** / **-** buttons to alter the function values.

Press "**STR**" button on the customer controls at the front of the TV after each adjustment has been made to store the required values.

To exit Service Mode press "**N**" button.

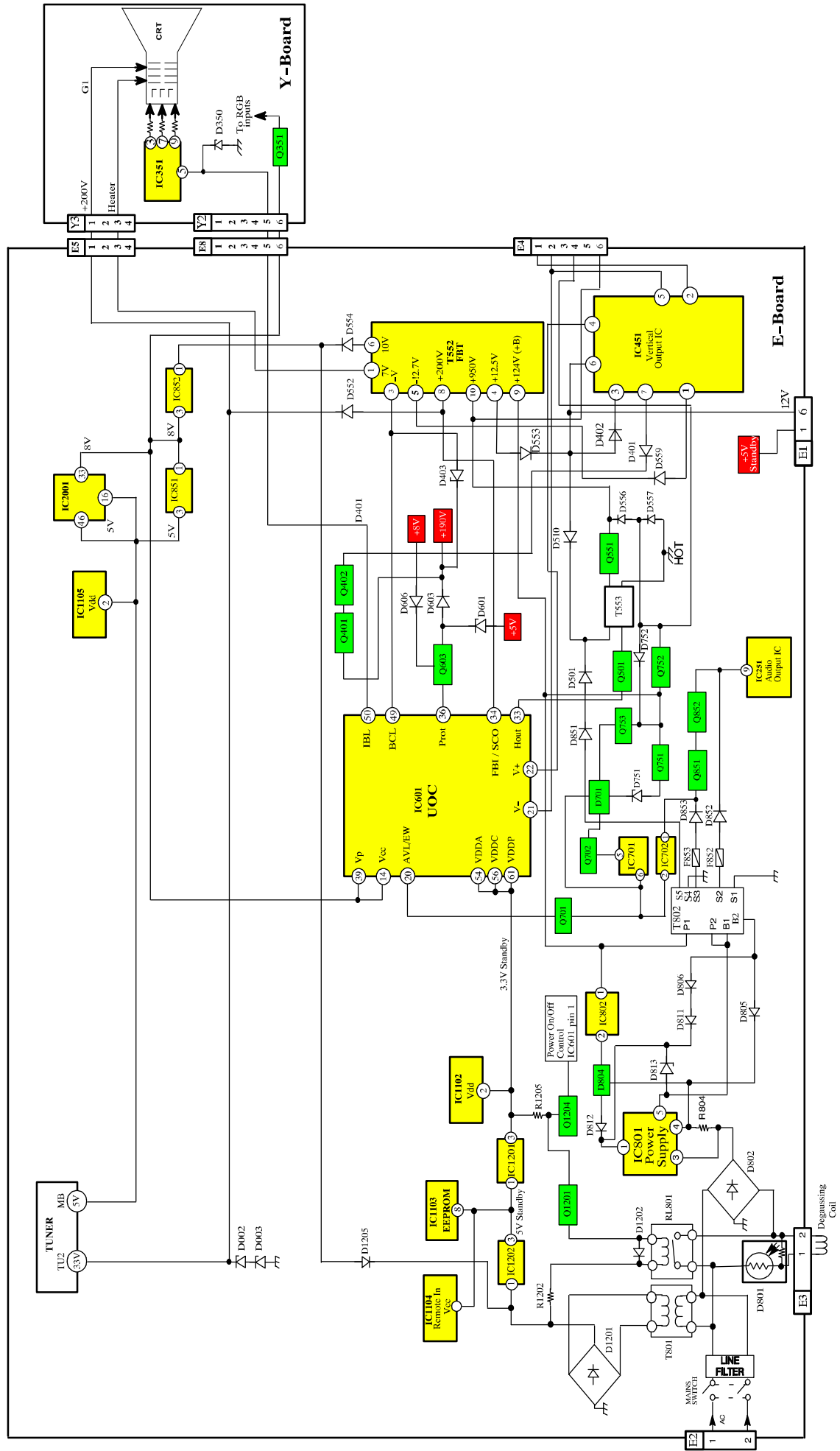
Alignment Function	Setting indication <i>Note: All setting values are approximate</i>	Settings / Special features
1. Cut off (Ug2)	LED On/Off	LED to be just On
2. Vertical slope	V-SLO 32	Optimum setting
3. Vert. Amplitude	V-AMP 33	Optimum setting.
4. Vertical shift	V-POS 43	Optimum setting.
5. Horizontal shift	H-CTR 31	Optimum setting.
6. Horizontal parallelogram	H-PAR 34	Optimum setting.
7. Horizontal bow	H-BOW 31	Optimum setting.
8. R - Cut	R – CUT 8	Optimum setting.
9. G - Cut	G – CUT 8	Optimum setting.
10. R - Drive	R - DRV 31	Optimum setting.
11. G - Drive	G - DRV 31	Optimum setting.
12. B - Drive	B - DR 31	Optimum setting.
13. AGC	AGC 08	Optimum setting.
14. Sub Colour	S - COL 20	Optimum setting.
15. Sub Brightness	S - BRI 31	Optimum setting.
16. Horizontal Width	EW – WD 34	Optimum setting.
17. EW parabola	EW – PR 32	Optimum setting.
18. EW Upper corners	EW – UC 32	Optimum setting.
19. EW Lower corners	EW – LC 33	Optimum setting.
20. EW Trapezoid	EW – TP 36	Optimum setting.

Input remote code "**FA**" followed by key 5 (14 hex) or press "**Status button**" on remote control (numerical keys 0-6 to change value, TV/AV button to store on remote control):

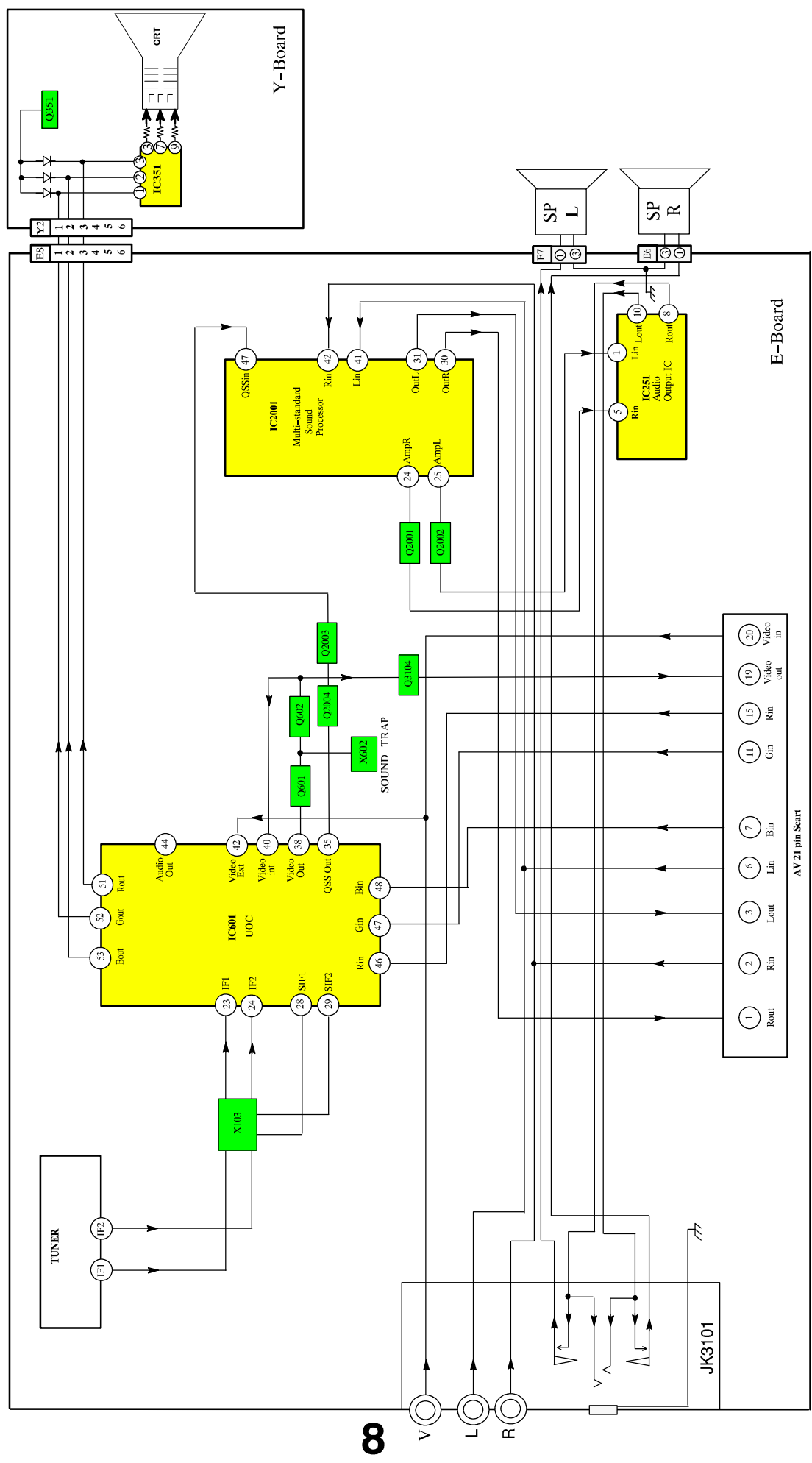
Option Byte – 1		Option Bytes Table	
Bit No.	VALUE	FUNCTIONS	
0	0	French model	0 NO
			1 YES
1	0	Irish model	0 NO
			1 YES
2	1	NICAM enabled	0 NO
			1 YES
3	0	A2 stereo enabled	0 NO
			1 YES
4	0	Tuner manufacturer	0 MACO
			1 ALPS
5	1	CRT	0 21"
			1 25",28"
6	0	Q - link enabled	0 NO
			1 YES

Option Byte - 2		Option Byte Table
Bit No.	Value	Functions
0	0	
1	0	
2	0	
3	0	
4	0	
5	0	
6	0	

**7**



# VIDEO & STEREO AUDIO BLOCK DIAGRAM



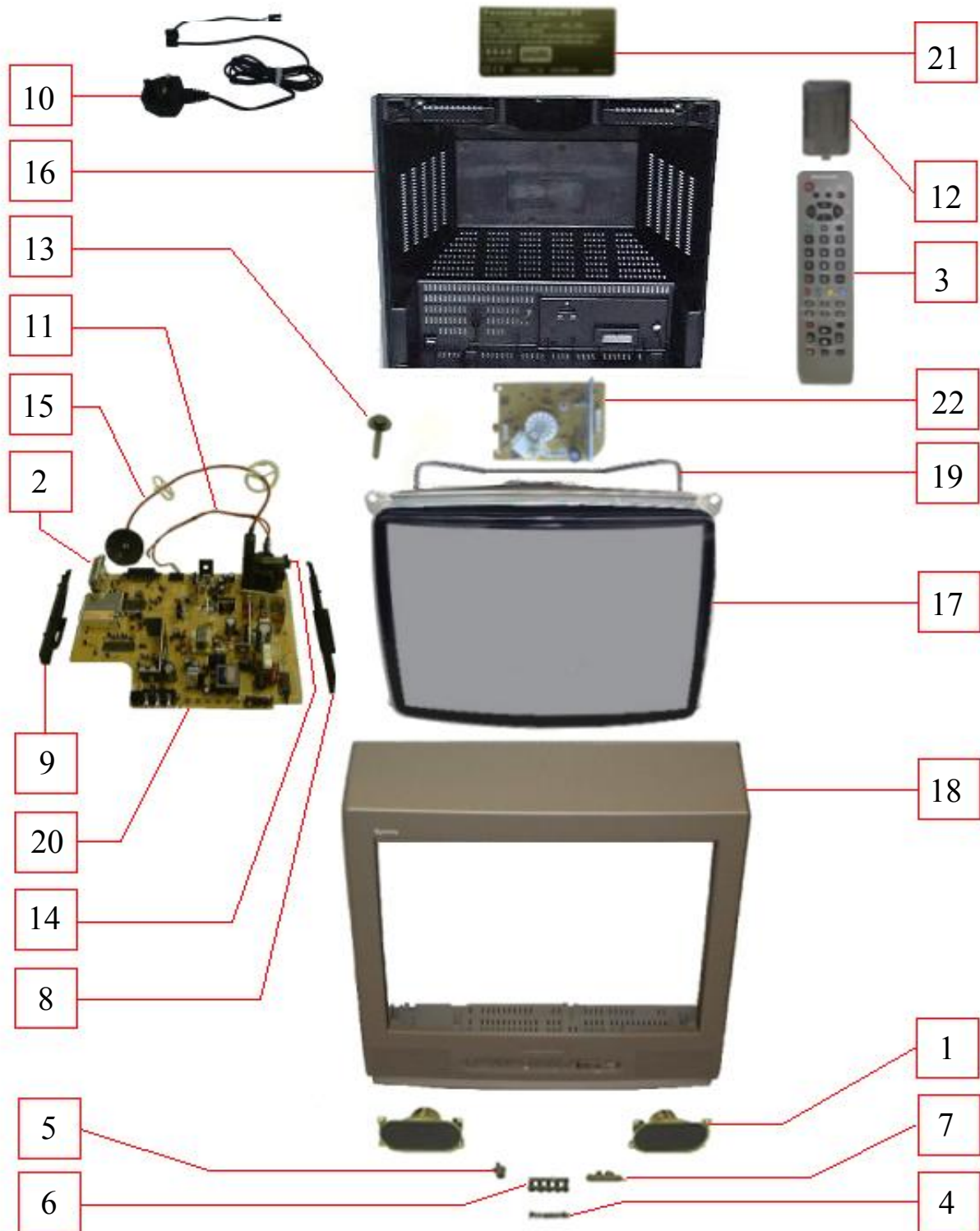


The schematic diagram illustrates the AV21 pin board, which interfaces between a Y-board and an E-board. The Y-board, located at the top, features a GRT (Graphic Receiver Tube) connected to IC351, which in turn is connected to a D350 diode. The E-board, located at the bottom, contains a Tuner, IC1103 (EEPROM), IC1104 (Remote In), IC1105 (Out), IC1102 (Out), IC601 (UOC), IC251 (Mute Audio Output IC), and various transistors (Q101-Q110) and diodes (D104, D106, D107). The diagram shows the interconnection of these components and their connection to the AV 21 pin Scart connector.

## PARTS LOCATION


**NOTE:**











The numbers on the exploded view below refer to the mechanical section of the Replacement Parts List





# REPLACEMENT PARTS LIST

## Important Safety Notice

Components Identified by  mark have special characteristics important for safety.  
 \* When replacing any of these components, use only manufacturers specified parts.  
 In case of ordering these spare parts, please always add the complete Model-Type number to your order.

Cct Ref	Parts Number	Description
<b>COMMON PARTS</b>		
<b>MECHANICAL PARTS</b>		
1	EASG12D552A2	SPEAKER
2	ENV87D12G3	TUNER
3	EUR511300	REMOTE CONTROL
4	TBM8E1928	PANASONIC BADGE
5	TBX8E071	POWER BUTON
6	TBX8E072	5-KEY BUTTON
7	TKK8E037	AV COVER
8	TMZ8E001	CHASSIS RAIL RIGHT
9	TMZ8E002	CHASSIS RAIL LEFT
10	TSX8E0036	POWER CORD 
11	TXFJTF01BMTG	FOCUS LEAD ASSY 
12	UR51EC904A	BATTERY COVER (REMOTE)
13	VP17005-32	CRT FIXING SCREW
14	ZTFL84001A	F. B. T. 
15	ZTUZAE550A	ANODE LEAD 
<b>MISCELLANEOUS COMPONENTS</b>		
D801	232266296706	THERMISTOR 
POE3	TMW8E015-2	LED HOLDER
R1283	P1201	SENSOR
S351	TJSC00300	CRT SOCKET 
<b>I.C.s</b>		
IC251	TDA7263	AUDIO OUTPUT
IC351	TDA6108JF	RGB OUTPUT
IC451	LA7845N	VERTICAL OUTPUT
IC601	TDA9364V301S	UOC
IC701	TEA2031A	E/W CORRECTION
IC702	AN78L20	20V REGULATOR
IC801	STRF6523LF51	POWER SUPPLY
IC802	SE140NLF4	ERROR IC
IC851	L78M05MRB	5V REGULATOR
IC852	BA08T-M3	8V REGULATOR
IC1102	MN13812-HTA	RESET
IC1104	RPM-6937	LED RECEIVER
IC1105	MN1381-R(TA)	RESET
IC1201	BA033T	3.3V REGULATOR
IC1202	BA05T-M1	5V REGULATOR
IC2001	MSP3415DPOB3	AUDIO PROCESSOR
<b>FUSES</b>		
F801	19181-3.15	FUSE 
F801-1	EYF52BC	FUSE HOLDER
F801-2	EYF52BC	FUSE HOLDER
F851	TR5-T500	FUSE 
F852	TR5-T1000	FUSE 
F853	TR5-T500	FUSE 

Cct Ref	Parts Number	Description
<b>DIODES</b>		
D002	MTZJT-7716A	DIODE
D003	MTZJT-7716A	DIODE
D260	MA29W-ATA	DIODE
D261	MTZJT-7739C	DIODE
D262	MTZJT-7739C	DIODE
D350	MTZJT-777.5B	DIODE
D351	1SR124-4AT82	DIODE
D352	1SR124-4AT82	DIODE
D353	1SR124-4AT82	DIODE
D370	MA165TA5	DIODE
D371	MA165TA5	DIODE
D372	MA165TA5	DIODE
D401	MA165TA5	DIODE
D402	ERA15-02V3	DIODE
D403	MTZJ33B	DIODE
D501	1SR124-4AT82	DIODE
D502	MTZJT-778.2A	DIODE
D510	1SR124-4AT82	DIODE
D551	MTZJT-778.2C	DIODE
D552	EU02	DIODE
D553	TVSRU3AMLFB4	DIODE
D554	TVSRU3AMLFB4	DIODE
D555	MA165TA5	DIODE
D556	ERD07-15L7	DIODE
D557	RU3LFA1	DIODE
D559	EU02	DIODE
D601	MTZJT-775.1A	DIODE
D603	MA165TA5	DIODE
D606	MA165TA5	DIODE
D607	BZT03C240113	DIODE
D701	SFH617A-20P6	PHOTO COUPLER 
D702	MA165TA5	DIODE
D703	MA165TA5	DIODE
D704	MTZJT-775.6C	DIODE
D705	MA29TA5	DIODE
D706	MTZJT-774.3B	DIODE
D751	MA4051	DIODE
D752	AU02V0	DIODE
D753	MTZJT-7730D	DIODE
D754	MTZJT-7727D	DIODE
D755	MA165TA5	DIODE
D802	RBV4-08	DIODE
D803	AU01V0	DIODE
D804	SFH617A-20P6	PHOTO COUPLER 
D805	1SR124-4AT82	DIODE
D806	1SR124-4AT82	DIODE
D808	TVSRU3AMLFA5	DIODE
D809	R2KNLFA1	DIODE
D810	MA165TA5	DIODE
D811	1SR124-4AT82	DIODE
D812	MA165TA5	DIODE





Cct Ref	Parts Number	Description
D813	MTZJT-7720D	DIODE
D814	MTZJT-775.6A	DIODE
D851	TVSRU3AMLFA5	DIODE
D852	TVSRU3AMLFA5	DIODE
D853	1SR124-4AT82	DIODE
D1101	MTZJT-776.2A	DIODE
D1104	SLR56UR3FLF	LED
D1106	MA165TA5	DIODE
D1107	MA165TA5	DIODE
D1201	TVSS1WBS20	DIODE
D1202	MA165TA5	DIODE
D1205	MA165TA5	DIODE
D3101	MTZJT-775.1A	DIODE
<b>TRANSISTORS</b>		
Q253	BC857B	TRANSISTOR
Q255	BC847B	TRANSISTOR
Q351	BC857B	TRANSISTOR
Q401	BC847B	TRANSISTOR
Q402	BC847B	TRANSISTOR
Q501	2SD2398-M2	TRANSISTOR
Q551	BU4508AFRB	TRANSISTOR
Q601	BC847B	TRANSISTOR
Q602	BC847B	TRANSISTOR
Q603	BC857B	TRANSISTOR
Q606	BC847B	TRANSISTOR
Q701	BC857B	TRANSISTOR
Q702	BC847B	TRANSISTOR
Q751	BC847B	TRANSISTOR
Q752	2SK2538000LB	TRANSISTOR
Q753	BC557B/126	TRANSISTOR
Q851	BC557B/126	TRANSISTOR
Q852	2SA684R	TRANSISTOR
Q1101	2SD965-R	TRANSISTOR
Q1102	BC847B	TRANSISTOR
Q1107	BC847B	TRANSISTOR
Q1109	BC847B	TRANSISTOR
Q1110	BC847B	TRANSISTOR
Q1201	BC847B	TRANSISTOR
Q1204	BC847B	TRANSISTOR
Q2001	BC857B	TRANSISTOR
Q2002	BC857B	TRANSISTOR
Q2003	BC847B	TRANSISTOR
Q2004	BC847B	TRANSISTOR
Q3104	2SC1318-S	TRANSISTOR
<b>TRANSFORMERS</b>		
T553	ETH19Z192AZ	TRANSFORMER
T801	ETP35KAN619U	TRANSFORMER
T802	10653050-A	TRANSFORMER
<b>COILS</b>		
J116	EXCELSA35T	COIL
L001	TALV35VB100K	COIL
L502	ELC08D682E	COIL
L601	TALV35VB8R2K	COIL
L602	TALV35VB100K	COIL
L604	EXCELD35V	COIL
L751	ELC18B801L	COIL
L752	ELC10D822E	COIL
L753	EXCELSA35T	COIL
L802	EXCELSA35T	COIL
L803	EXCELD35V	COIL
L851	EXCELSA35T	COIL
L852	EXCELSA35T	COIL
L853	EXCELSA35T	COIL
L1101	TALV35VB331K	COIL
L2001	TALV35VB4R7K	COIL












Cct Ref	Parts Number	Description
L2002	TALV35VB4R7K	COIL
L2004	EXCELSA35T	COIL
L2005	TALV35VB6R8K	COIL
L2006	TALV35VB100K	COIL
L3101	TLT100K991R	COIL
L3102	TLT100K991R	COIL
L3103	EXCELSA35T	COIL
L3104	EXCELSA35T	COIL
L3105	TALV35VB100K	COIL
L3107	EXCELD35V	COIL
<b>FILTERS</b>		
L801	ELF15N005A	LINE FILTER
X602	EFCT6R0MW5	FILTER
<b>CRYSTALS</b>		
X103	J3353K	CRYSTAL
X601	TSSA010	CRYSTAL
X2001	4730007158	CRYSTAL
<b>RESISTORS</b>		
JA1	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA2	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA3	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA4	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA5	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA6	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA7	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA9	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA10	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA11	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA12	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA15	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA16	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA18	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA19	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA20	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA21	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA27	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA28	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA29	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA30	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA31	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA32	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA33	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA34	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA36	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA37	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA38	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA39	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA40	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA41	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA42	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA43	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA44	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JA45	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA46	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JSE1	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE2	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE11	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JSE15	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE18	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE26	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE29	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE30	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE33	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE37	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE43	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω

Cct Ref	Parts Number	Description			
JYA	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R001	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R003	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R004	ERG2SJS273	METAL	2W	5%	27K Ω <sup>△</sup>
R005	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R006	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω
R007	ERJ6GEYJ302	S.M.CARB	0.1W	5%	3K Ω
R008	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω
R110	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R241	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R251	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68 Ω
R252	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω
R254	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68 Ω
R256	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R257	ERJ6GEYJ360	S.M.CARB	0.1W	5%	36 Ω
R258	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω
R259	ERJ6GEYJ360	S.M.CARB	0.1W	5%	36 Ω
R260	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R261	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R262	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R263	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R264	ERJ6GEYJ512	S.M.CARB	0.1W	5%	5K1 Ω
R265	ERD25TJ2R2	CARBON	0.25W	5%	2R2 Ω
R266	ERD25TJ2R2	CARBON	0.25W	5%	2R2 Ω
R268	ERJ6GEYJ203	S.M.CARB	0.1W	5%	20K Ω
R280	ERJ6GEYJ204	S.M.CARB	0.1W	5%	200K Ω
R281	ERJ6GEYJ204	S.M.CARB	0.1W	5%	200K Ω
R351	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R352	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R353	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R357	ERDS1TJ102	CARBON	0.5W	5%	1K Ω
R358	ERDS1TJ102	CARBON	0.5W	5%	1K Ω
R359	ERDS1TJ102	CARBON	0.5W	5%	1K Ω
R360	ERG2SJS470H	METAL	2W	5%	47 Ω
R370	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R371	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω
R401	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω
R402	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω
R403	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω
R404	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω
R405	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω
R406	ERJ6GEYJ1R0	S.M.CARB	0.1W	5%	1 Ω
R407	ERDS1TJ471	CARBON	0.5W	5%	470 Ω
R408	ERDS1TJ471	CARBON	0.5W	5%	470 Ω
R409	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω
R410	ERJ6GEYJ683	S.M.CARB	0.1W	5%	68K Ω
R411	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω
R415	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω
R501	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω
R502	ERD25TJ272F	CARBON	0.25W	5%	2K7 Ω
R503	ERG3SJS220H	METAL	3W	5%	22 Ω
R504	ERG2ANJP471H	METAL	2W	5%	470 Ω
R507	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω
R553	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω
R556	ERG1SJ183	METAL	1W	5%	18K Ω
R557	ERDS1TJ184	CARBON	0.5W	5%	180 Ω
R558	ERD25TJ183	CARBON	0.25W	5%	18K Ω
R560	ERQ1CJP102	FUSIBLE	1W	5%	1K Ω <sup>△</sup>
R561	ERQ12AJ101	FUSIBLE	0.5W	5%	100 Ω <sup>△</sup>
R601	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R602	ERJ6ENF3001	S.M.CARB	0.5W	5%	30 Ω
R603	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R604	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R605	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R606	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω

Cct Ref	Parts Number	Description			
R607	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R608	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R609	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R610	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R611	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R612	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R613	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω
R614	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R615	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47 Ω
R616	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R617	ERJ6GEYJ181	S.M.CARB	0.1W	5%	180 Ω
R618	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47 Ω
R619	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R620	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R621	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R622	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R623	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R624	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R625	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R626	ERJ6GEYJ474	S.M.CARB	0.1W	5%	470K Ω
R627	ERJ6GEYJ474	S.M.CARB	0.1W	5%	470K Ω
R628	ERDS1TJ684	CARBON	0.5W	5%	680K Ω
R629	ERJ6GEYJ154	S.M.CARB	0.1W	5%	150K Ω
R630	ERJ6ENF1802	S.M.CARB	0.1W	5%	1K8 Ω
R631	ERO50PKF5603	METAL	0.5W	1%	560K Ω <sup>△</sup>
R632	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R633	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R635	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R638	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150 Ω
R639	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R646	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R701	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R702	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R703	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω
R704	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R705	ERDS1TJ821	CARBON	0.5W	5%	820 Ω
R706	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω
R707	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω
R708	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω
R709	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R710	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R711	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R712	ERJ6GEYJ561	S.M.CARB	0.1W	5%	560 Ω
R713	ERG1SJ101	METAL	1W	5%	100 Ω
R715	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R716	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω
R717	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω
R751	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω
R752	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R753	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω
R754	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R756	ERDS1TJ472	CARBON	0.5W	5%	4K7 Ω
R757	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68 Ω
R758	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω
R759	ERQ12HJ8R2	FUSIBLE	0.5W	5%	8R2 Ω <sup>△</sup>
R760	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R761	ERG1SJ563	METAL	1W	5%	56K Ω
R762	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R763	ERG3FJ561H	METAL	3W	5%	560 Ω
R802	ERC12ZGK335V	SOLID	0.5W	10%	3M3 Ω <sup>△</sup>
R803	ERF7ZK2R7	WOUND	7W	20%	2R7 Ω <sup>△</sup>
R804	ERG2ANJP104H	METAL	2W	5%	100K Ω
R805	ERDS1TJ103	CARBON	0.5W	5%	10K Ω
R806	ERDS1TJ332	CARBON	0.5W	5%	3K3 Ω
R809	ERW2PKR33	WOUND	2W	20%	R33 Ω <sup>△</sup>
R810	ERDS1TJ152	CARBON	0.5W	5%	1K5 Ω

Cct Ref	Parts Number	Description			
R811	ERQ12HJ100	FUSIBLE	0.5W	5%	10 Ω 
R812	ERD75TAJ825	CARBON	0.75W	5%	8M2 Ω 
R813	ERDS1TJ103	CARBON	0.5W	5%	10K Ω
R814	ERDS1TJ330	CARBON	0.5W	5%	33 Ω
R815	ERDS1TJ681	CARBON	0.5W	5%	680 Ω
R851	ERG2SJS220H	METAL	2W	5%	220 Ω
R852	ERG2SJS130H	METAL	2W	5%	13 Ω
R853	ERG3FJ151	METAL	3W	5%	150 Ω 
R854	ERG3FJ151	METAL	3W	5%	150 Ω 
R855	ERDS1TJ4R7	CARBON	0.5W	5%	4R7 Ω
R856	ERD25TJ101	CARBON	0.25W	5%	100 Ω
R857	ERD25TJ202	CARBON	0.25W	5%	2K Ω
R858	ERDS1TJ103	CARBON	0.5W	5%	10K Ω
R1101	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1102	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1104	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R1105	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R1106	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R1107	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω
R1108	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1110	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R1112	ERJ6GEYJ362	S.M. CAR	0.1W	5%	3K6 Ω
R1113	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4 Ω
R1114	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω
R1115	ERJ6GEYJ822	S.M.CARB	0.1W	5%	8K2 Ω
R1116	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω
R1117	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω
R1118	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1119	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1120	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1121	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1122	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1125	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1127	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1135	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R1140	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1141	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1144	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω
R1145	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω
R1146	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω
R1147	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R1148	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1149	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1150	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1202	ERDS1TJ680	CARBON	0.5W	5%	68 Ω
R1205	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω
R1206	2-840463-3	METAL	2W	5%	22K Ω
R1209	ERDS1TJ560	CARBON	0.5W	5%	56 Ω
R2001	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2003	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R2004	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R2007	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R2008	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2009	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2010	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R2011	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R2012	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R2013	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R2014	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R2015	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R2016	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2017	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R2018	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω
R2020	ERJ6GEYJ202	S.M.CARB	0.1W	5%	2K Ω
R2021	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω

Cct Ref	Parts Number	Description			
R2022	ERJ6GEYJ303	S.M.CARB	0.1W	5%	30K Ω
R3106	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R3111	ERDS1TJ101	CARBON	0.5W	5%	100 Ω
R3115	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150 Ω
R3116	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3117	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3118	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3120	ERDS1TJ750	CARBON	0.5W	5%	75 Ω
R3121	ERJ6GEYJ334	S.M.CARB	0.1W	5%	330K Ω
R3122	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3123	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3124	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3125	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω
R3129	ERDS1TJ750	CARBON	0.5W	5%	75 Ω
R3130	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3131	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3132	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R3133	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R3134	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
<b>CAPACITORS</b>					
C001	ECEA1CU100	ELECT	16V		10μF
C002	ECJ2VF1H104Z	ELECT	350V		100nF
C005	ECJ2VF1H104Z	ELECT	350V		100nF
C006	ECEA1HU101	ELECT	50V		100μF
C007	ECA1HM330B	ELECT	50V		33μF
C117	ECJ2VB1H103K	ELECT	350V		10nF
C118	ECJ2VB1H103K	ELECT	350V		10nF
C251	ECEA1HU101	ELECT	50V		100μF
C252	ECJ2VB1H223K	ELECT	350V		22nF
C256	ECJ2VB1H223K	ELECT	350V		22nF
C257	ECA1CHG102B	ELECT	10V		1000μF
C258	ECEA1HU101	ELECT	50V		100μF
C260	ECA1VM102GB	ELECT	35V		1nF
C261	ECA1VM102GB	ELECT	35V		1nF
C264	ECA1HHG222E	ELECT	50V		2200μF
C267	ECJ2YB1H104K	ELECT	350V		100nF
C268	ECJ2YB1H104K	ELECT	350V		100nF
C270	ECJ2YB1H104K	ELECT	350V		100nF
C351	ECA2EM010B	ELECT	250V		1μF
C352	ECKC2H152J	CERAMIC	500V		1.5nF 
C354	ECJ2VF1H104Z	ELECT	350V		100nF
C356	ECUV1H102ZFX	S.M. CAP	50V		1nF
C357	ECKC3D152J	CERAMIC	2KV		1.5nF 
C358	ECUV1H561KBX	S.M. CAP	50V		560pF
C405	ECUV1H100CCX	S.M. CAP	50V		10pF
C406	ECA1HHG101B	ELECT	50V		100μF
C410	ECEA1HU101	ELECT	50V		100μF
C502	ECQM1273KZW	FILM	100V		27nF
C504	ECUV1H222JCX	S.M. CAP	50V		2.2nF
C551	ECUV1H220JCX	S.M. CAP	50V		22pF
C554	ECA1VM471GB	ELECT	35V		470μF
C555	ECKC2H471J	CERAMIC	500V		470pF 
C556	ECKC2H471J	CERAMIC	500V		470pF 
C557	ECKC2H331J	CERAMIC	500V		330pF 
C558	ECA2CM3R3B	ELECT	160V		3.3μF
C560	ECQF4273JZH	FILM	400V		27nF 
C562	ECA2GHG2R2B	ELECT	400V		27nF
C564	ECA1VM471GB	ELECT	35V		470μF
C565	ECKC2H471J	CERAMIC	500V		470pF 
C566	ECA1VM471GB	ELECT	35V		470μF
C567	ECKC3D681J	CERAMIC	2KV		680pF 
C570	ECKC2H152J	CERAMIC	500V		1.5nF 
C601	ECA1CM102B	ELECT	16V		1000μF
C602	ECJ2YB1H104K	ELECT	350V		100nF
C603	ECJ2VB1H472K	ELECT	350V		4.7nF
C606	ECUV1H222JCX	S.M. CAP	50V		2.2nF

Cct Ref	Parts Number	Description		
C609	ECJ2YB1H104K	ELECT	350V	100nF
C610	ECJ2VB1H103K	ELECT	350V	10nF
C612	ECJ2VB1H472K	ELECT	350V	4.7nF
C613	ECJ2VB1H472K	ELECT	350V	4.7nF
C618	ECEA1CU100	ELECT	16V	10μF
C620	ECUV1H470GCG	S.M. CAP	50V	47pF
C621	ECJ2VF1H104Z	ELECT	350V	100nF
C622	ECUV1H101JCX	S.M. CAP	50V	100pF
C624	ECQB1H223K	FILM	50V	22nF
C625	ECQB1H223K	FILM	50V	22nF
C626	ECQB1H223K	FILM	50V	22nF
C627	ECJ2YB1H473K	ELECT	350V	47nF
C628	ECJ2YB1H473K	ELECT	350V	47nF
C629	ECJ2YB1H104K	ELECT	350V	100nF
C630	ECJ2VF1H104Z	ELECT	350V	100nF
C631	ECEA1HU101	ELECT	50V	100μF
C632	ECEA1HU101	ELECT	50V	100μF
C633	ECJ2VF1H104Z	ELECT	350V	100nF
C634	ECEA1HU101	ELECT	50V	100μF
C635	ECJ2VF1H104Z	ELECT	350V	100nF
C636	ECA1CM102B	ELECT	16V	1000μF
C637	ECEA1HU101	ELECT	50V	100μF
C638	ECEA1HU101	ELECT	50V	100μF
C639	ECA1HM220GB	ELECT	50V	22μF
C646	ECJ2YB1H104K	ELECT	350V	100nF
C650	ECUV1H390JCX	S.M. CAP	50V	39pF
C651	ECUV1H390JCX	S.M. CAP	50V	39pF
C652	ECUV1H390JCX	S.M. CAP	50V	39pF
C653	ECJ2YB1H683K	ELECT		68nF
C654	ECJ2VB1H103K	ELECT	350V	10nF
C702	ECJ2VF1H104Z	ELECT	350V	100nF
C703	ECA1HHG100B	ELECT	50V	10μF
C704	ECQB1H122J	FILM	50V	1.2nF
C705	ECQB1H223K	FILM	50V	22nF
C708	ECA1HM220GB	ELECT	50V	22μF
C752	ECJ2VF1H104Z	ELECT	350V	100nF
C753	ECJ2VF1H104Z	ELECT	350V	100nF
C754	ECA1JM101B	ELECT	63V	100μF
C755	ECKC2H471J	CERAMIC	500V	470pF
C802	ECKWNA332ME	CERAMIC	250V	3.3nF
C803	ECKWNA152MEC	CERAMIC	250V	1.5nF
C805	ECQE2A474MWB	FILM	250V	470nF
C806	ECKC2H472J	CERAMIC	500V	4.7nF
C807	ECKC2H472J	CERAMIC	500V	4.7nF
C808	ECKC2H472J	CERAMIC	500V	4.7nF
C810	ECA1HHG101B	ELECT	50V	100μF
C811	ECKC1H471J	CERAMIC	50V	470pF
C812	ECKC3A182J	CERAMIC	1KV	1800pF
C814	ECKC3D102J	CERAMIC	2KV	1nF
C815	ECA2CHG221E	ELECT	160V	220μF
C816	ECKC2H472J	CERAMIC	500V	4.7nF
C818	ECQB1H683K	FILM	50V	68nF
C854	ECKC2H471J	CERAMIC	500V	470pF
C855	ECJ2VF1H104Z	ELECT	350V	100nF
C856	ECA1VM471GB	ELECT	35V	470μF
C858	ECJ2VF1H104Z	ELECT	350V	100nF
C859	ECA1HHG471E	ELECT	50V	470μF
C860	ECA1VHG331B	ELECT	35V	330pF
C1101	ECJ2VF1H104Z	ELECT	350V	100nF
C1102	ECA1CM220GB	ELECT	16V	22μF
C1103	ECUV1H331JCX	S.M. CAP	50V	330pF
C1104	ECEA1HU101	ELECT	50V	100μF
C1105	ECJ2VF1H104Z	ELECT	350V	100nF
C1203	ECEA1HU101	ELECT	50V	100μF
C1204	ECEA1HU101	ELECT	50V	100μF
C1205	ECJ2VF1C334Z	ELECT	350V	330nF

Cct Ref	Parts Number	Description		
C1210	ECEA1HU101	ELECT	50V	100μF
C2001	ECJ2VB1H103K	ELECT	350V	10nF
C2002	ECJ2VB1H103K	ELECT	350V	10nF
C2003	ECEA1HU101	ELECT	50V	100μF
C2004	ECJ2VF1H104Z	ELECT	350V	100nF
C2005	ECUV1H102JCX	S.M. CAP	50V	1nF
C2006	ECUV1H102JCX	S.M. CAP	50V	1nF
C2007	ECUV1H102JCX	S.M. CAP	50V	1nF
C2008	ECUV1H010CCX	S.M. CAP	50V	1pF
C2009	ECUV1H010CCX	S.M. CAP	50V	1pF
C2012	ECUV1H470JCX	S.M. CAP	50V	47pF
C2013	ECUV1H070DTX	S.M. CAP	50V	70pF
C2014	ECUV1H560GCG	S.M. CAP	50V	56pF
C2015	ECUV1H220JCX	S.M. CAP	50V	22pF
C2016	ECJ2VF1H104Z	ELECT	350V	100nF
C2017	ECJ2VF1H104Z	ELECT	350V	100nF
C2018	ECEA1CU100	ELECT	16V	10μF
C2019	ECEA1HU101	ELECT	50V	100μF
C2022	ECUV1H221JCX	S.M. CAP	50V	220pF
C2023	ECUV1H221JCX	S.M. CAP	50V	220pF
C2024	ECJ2VF1H104Z	ELECT	350V	100nF
C2026	ECEA1CU100	ELECT	16V	10μF
C2027	ECEA1HU101	ELECT	50V	100μF
C2031	ECUV1H102JCX	S.M. CAP	50V	1nF
C2032	ECUV1H102JCX	S.M. CAP	50V	1nF
C2033	ECJ2VF1H104Z	ELECT	350V	100nF
C2036	ECUV1H471JCX	S.M. CAP	50V	470pF
C2037	ECUV1H221JCX	S.M. CAP	50V	220pF
C2038	ECJ2VB1H103K	ELECT	350V	10nF
C2039	ECJ2VF1H104Z	ELECT	350V	100nF
C2040	ECEA1HU101	ELECT	50V	100μF
C2041	ECUV1H100DCX	S.M. CAP	50V	10pF
C2042	ECUV1H100DCX	S.M. CAP	50V	10pF
C3103	ECEA1HU101	ELECT	50V	100μF
C3104	ECJ2VF1H104Z	ELECT	350V	100nF
C3109	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3110	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3111	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3112	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3113	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3114	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3116	ECUV1H561KBX	S.M. CAP	50V	560pF
C3117	ECUV1H561KBX	S.M. CAP	50V	560pF
<b>TERMINALS AND LINKS</b>				
JK3101	TJB16673	A.V. TERMINAL		
JK3102	TJB8E011	SCART SOCKET		
<b>SWITCHES</b>				
S801	ESB92S11B	SWITCH		
S1101	EVQ21405R	SWITCH		
S1102	EVQ21405R	SWITCH		
S1103	EVQ21405R	SWITCH		
S1104	EVQ21405R	SWITCH		
S1105	EVQ21405R	SWITCH		
<b>RELAYS</b>				
RL801	DJ5D1-0M	RELAY		
<b>DIFFERENCES FOR MODEL TX-25CK1</b>				
<b>MECHANICAL PARTS</b>				
16	TKU8E00520	BACK COVER		
17	A59EEQ15X97	C.R.T.		
18	TKY8E450	CABINET		
19	TLK8E05162	DEGAUSS COIL		
20	TNP8EE011CR	E.P.C.B.		
21	TBM8E2018	MODEL LABEL		






# SCHEMATIC DIAGRAMS FOR MODELS

## TX-28CK1, TX-25CK1

### (Z8 CHASSIS)

#### IMPORTANT SAFETY NOTICE

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturers' specified parts.

#### NOTE

1. RESISTOR  
All resistors are carbon 1/4W resistor, unless marked otherwise.  
Unit of resistance is OHM ( $\Omega$ ) (k=1,000, M=1,000,000)
2. CAPACITORS  
All capacitors are ceramic 50V unless marked otherwise.  
Unit of capacitance is  $\mu$ F unless otherwise stated.
3. COIL  
Unit of inductance is  $\mu$ H, unless otherwise stated.

4. TEST POINT



Test Point Position

5. EARTH SYMBOL



Chassis Earth (Cold)



Line Earth (Hot)

6. VOLTAGE MEASUREMENT

Voltage is measured by a d.c. voltmeter.

Measurement conditions are as follows:

Power source	a.c. 220V-240V, 50Hz
Receiving Signal	Colour Bar signal (RF)
All customer controls	Maximum position

- 7.



Indicates the Video signal path



Indicates the Audio signal path

These schematic diagrams are the latest at time of printing and are subject to change without notice.

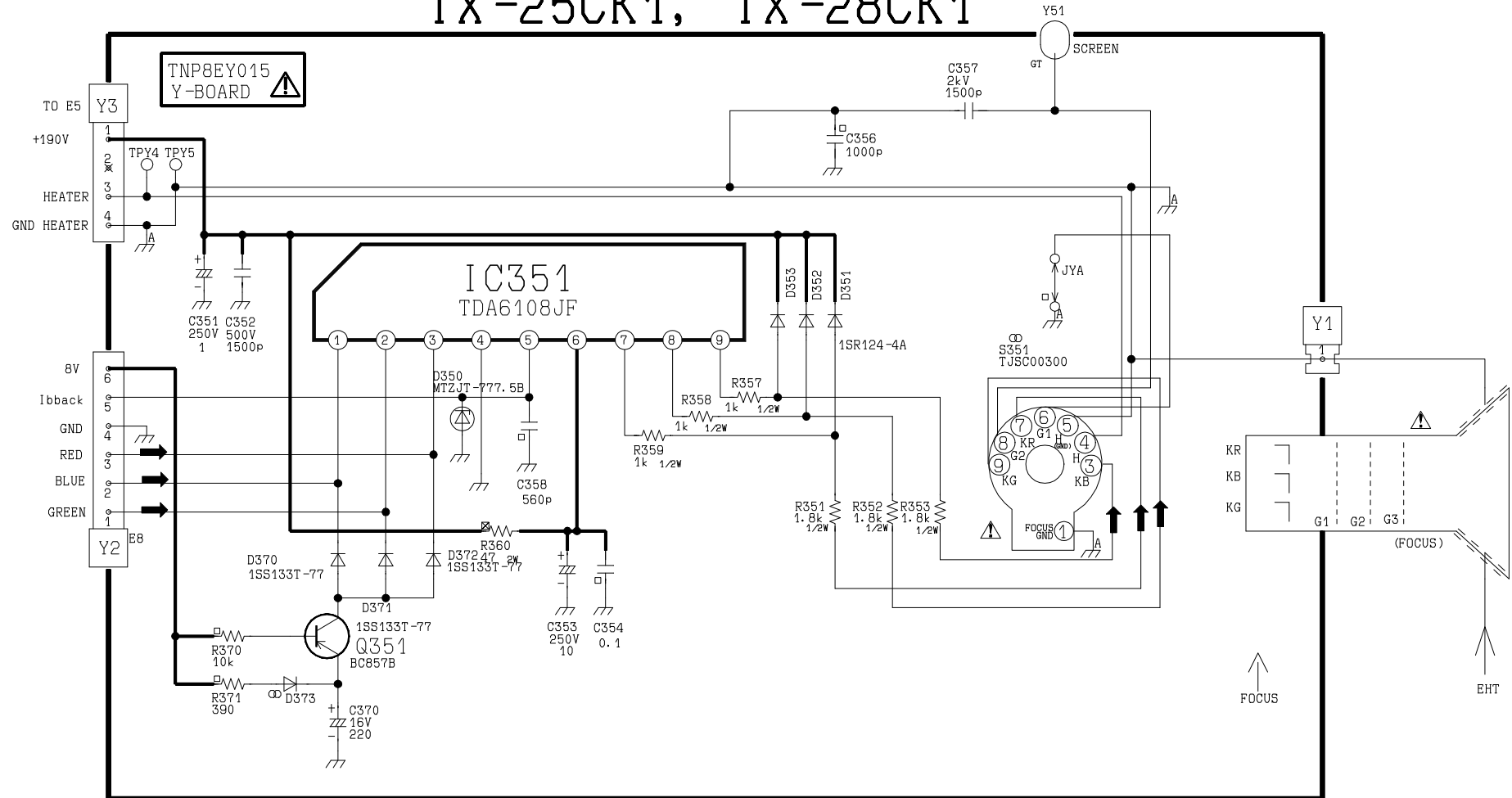
#### REMARKS

- a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- b. Do not short circuit the hot and cold circuits as electrical components may be damaged.
- c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.
- d. Make sure to disconnect the power plug before removing the chassis.

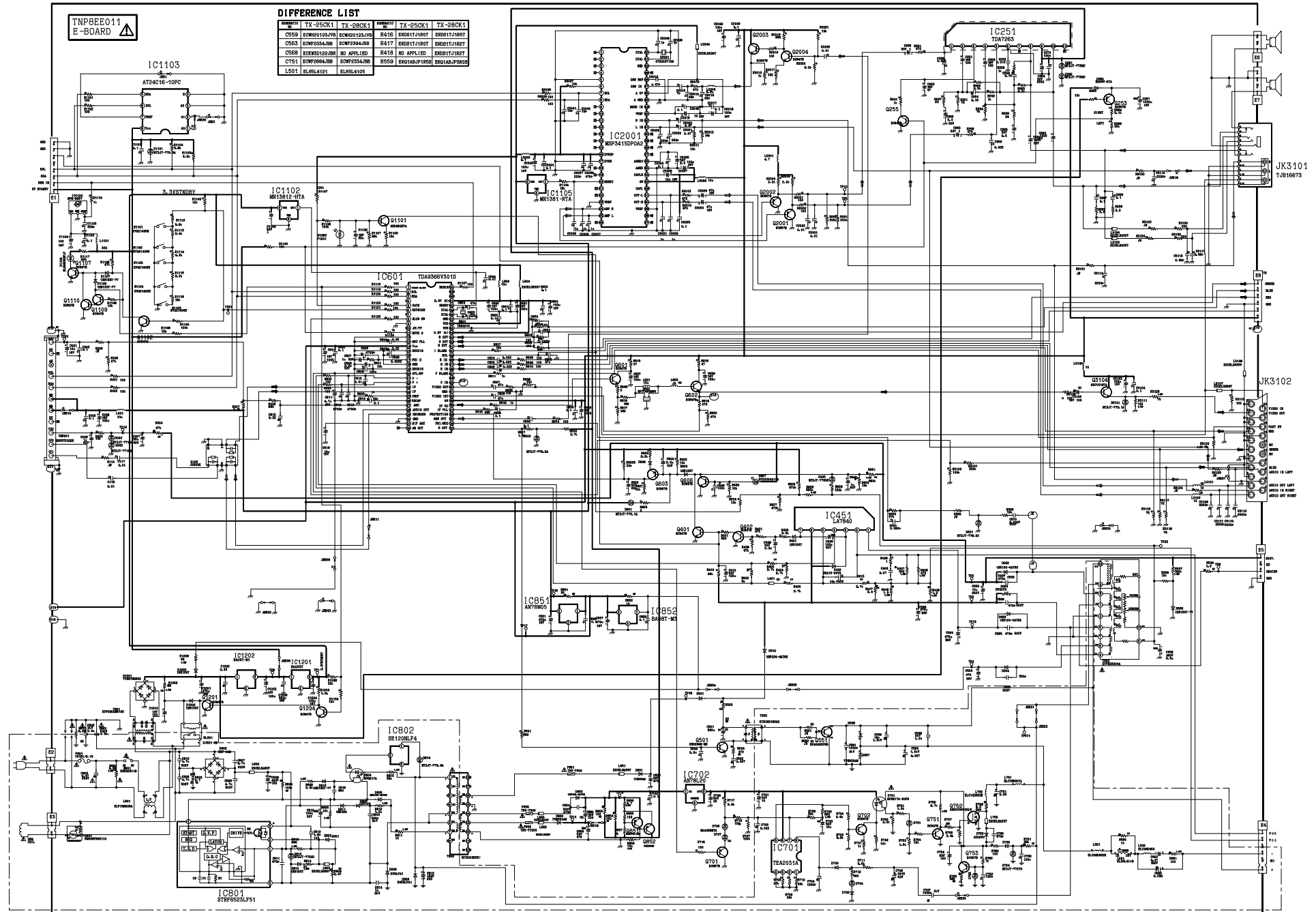
#### NOTE

1. The Power Supply Circuit contains a circuit area, which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.

# TX-25CK1, TX-28CK1



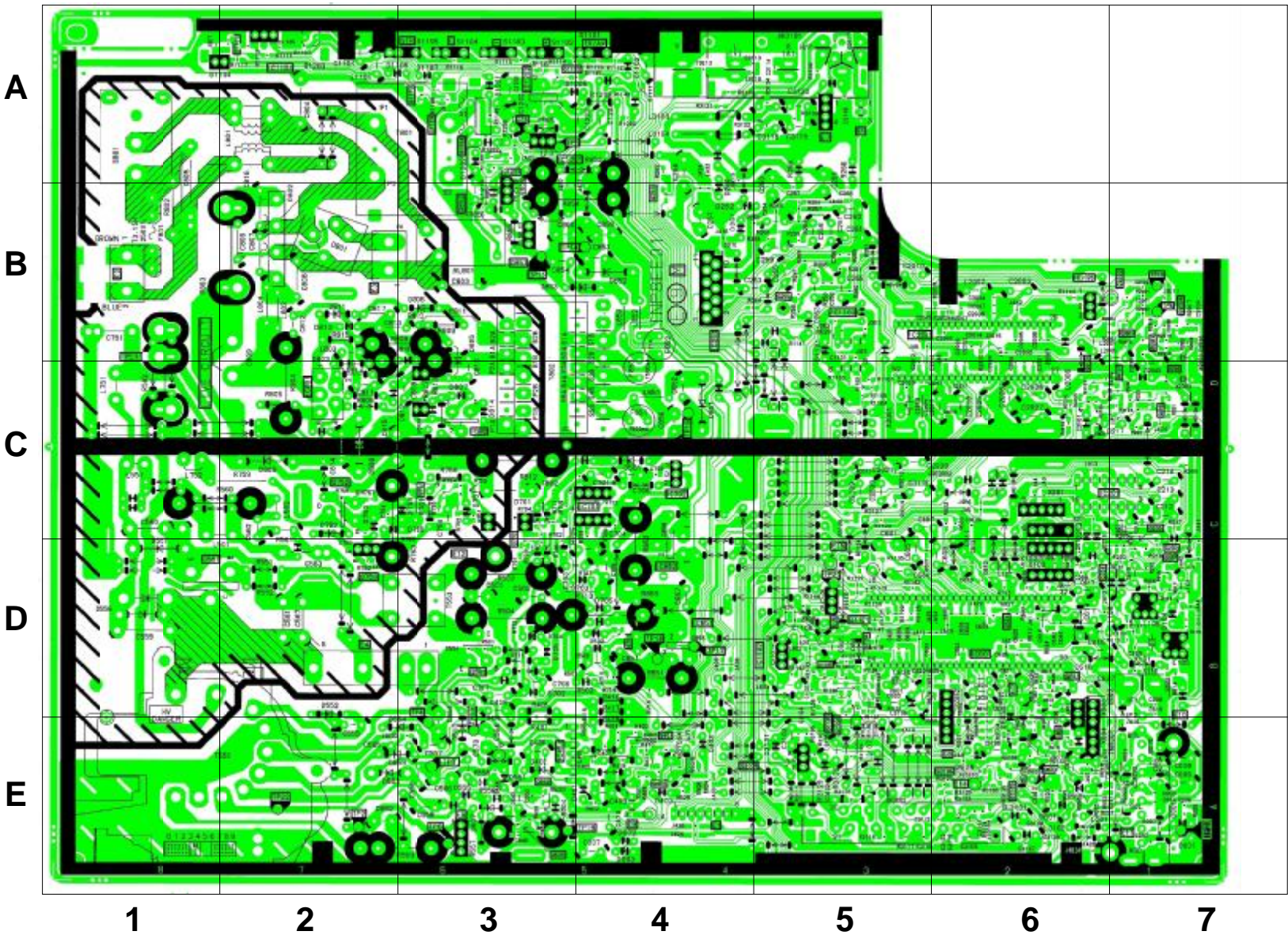
# TX-25CK1, TX-28CK1



CONDUCTOR VIEWS FOR MODELS TX-28CK1, TX-25CK1

E - BOARD TNP8EE011

TRAN'S		DIODES		D852	B4
Q253	B4	D002	E4	D853	B4
Q255	B5	D003	E4	D1101	B5
Q401	E4	D260	B4	D1104	A1
Q402	E4	D261	B4	D1106	A2
Q501	D3	D262	B4	D1107	A3
Q551	D1	D401	E4	D1201	A3
Q601	D6	D402	E3	D1202	A3
Q602	A2	D403	E4	D1205	A3
Q603	E6	D501	C4	D3101	E5
Q606	E3	D502	D4		
Q701	D4	D510	E3	I.C.'S	
Q702	D3	D551	E3	IC251	B4
Q751	C3	D552	D2	IC451	E3
Q752	C2	D553	E2	IC601	D6
Q753	D2	D554	E3	IC701	C4
Q851	B3	D555	E3	IC702	C4
Q852	B3	D556	D1	IC801	C2
Q1101	D5	D557	D1	IC802	C3
Q1102	A3	D559	E2	IC851	D4
Q1107	A2	D601	E6	IC852	D4
Q1109	A3	D603	E6	IC1102	D5
Q1110	A3	D606	E6	IC1103	B5
Q1201	B3	D607	E3	IC1104	A2
Q1204	A3	D701	C3	IC1105	B6
Q2001	B7	D702	D3	IC1201	A3
Q2002	B7	D703	D4	IC1202	A3
Q2003	B7	D704	D3	IC2001	B5
Q2004	B7	D705	D3		
Q3104	E4	D706	D4	T.P.'S	
		D707	D4	TP1	A3
		D751	C3	TP2	E2
		D752	C2	TP3	E3
		D753	C2	TP4	E3
		D754	C3	TP5	B7
		D755	C2	TP6	E3
		D801	E7	TP8	A3
		D802	E7	TP10	B7
		D803	C2	TP13	E3
		D804	C3	TP14	B4
		D805	B3	TP15	B3
		D806	B3	TP16	C4
		D808	C2	TP17	D4
		D809	C2	TP18	D4
		D810	B3	TP19	E3
		D811	B2	TP20	E7
		D812	C2	TP21	D5
		D813	B2	TP22	E2
		D814	C3	TPE11	B1
		D851	C4		



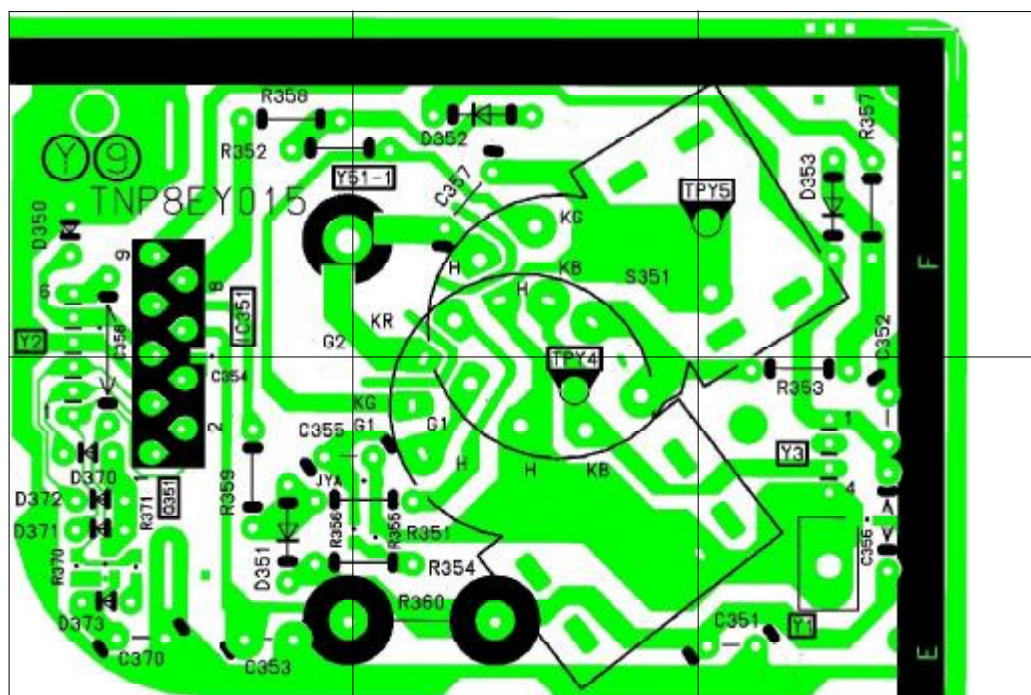


## Y - BOARD TNP8EY015

TRAN'S	
Q351	B1
DIODES	
D350	A1
D351	B1
D352	A2
D353	A3
D370	B1
D371	B1
D372	B1
D373	B1
T.P.'S	
TPY4	B2
TPY5	A3
I.C.'S	
IC351	A1

A

B



1

2

3

## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

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